

Application No.: 10/508,837  
Inventor: GROSSMAN  
Docket No.: 53368

## **REMARKS/ARGUMENTS**

### **Claim Amendments**

Applicant has amended claim 13 to include formula I, which was omitted due to a transcription error.

### **Restriction Requirement**

The Examiner maintained the restriction between Group I, claims 2-12, and Group II, Claims 13 and 14 on grounds that the claims lacked unity of invention as they lacked a corresponding special technical feature, which did not make a contribution over the prior art. Applicant provisionally elects Group I, claims 2-12, for further prosecution on the merits and respectfully traverses the restriction requirement.

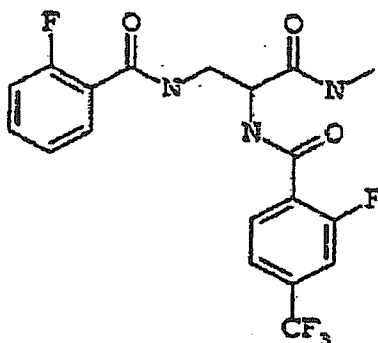
Applicant respectfully submits that independent claims 2, 11 and 13 relate to a.) methods of identifying compounds having herbicidal activity based on their effect on specific enzymatic activity, b.) methods of controlling undesired vegetation by applying compounds affecting specific enzymatic activity, and c.) compounds affecting specific enzymatic activity, respectively. Accordingly, each of claims 2, 11 and 13 share the same corresponding special technical feature, which, as discussed relative to the rejection under 35 USC § 103 later in this writing, defines a contribution over the prior art. Furthermore, Applicant respectfully submits that the finality of the requirement is in error as it is based on new grounds not necessitated by an amendment of the claims. Thus, Applicant should be granted a fair opportunity to challenge the new grounds of the restriction requirement.

In view thereof, both the finality, and the restriction itself, should be withdrawn.

### **Claim Rejections under 35 USC §112**

The Examiner rejected claim 13 as being incomplete for omitting essential elements. Applicant has amended claim 13 to recite the formula:

Application No.: 10/508,837  
Inventor: GROSSMAN  
Docket No.: 53368



which was omitted as the result of an obvious transcription error. No new matter has been entered or new issues raised by the amendment of claim 13.

#### **Claim Rejections under 35 USC § 103**

1.) The Examiner rejected claims 2-12 under 35 USC § 103 as allegedly obvious in view of Ward (WO 99/67402 A2) and Koga (Biochemica et Biophysica Acta 209 (1994) pp. 200-206)). Applicant respectfully traverses the rejection.

Regarding Ward, Ward describes how herbicides may be found and is specifically directed to only those herbicides that target AIR synthetase activity. AIR however is a compound that is synthesized in the organism by an entirely different pathway - the purine pathway. Purine is chemically entirely different from IAA and bears no relationship to the pathway in which the instantly targeted enzymes take part. In this regard, Ward is wholly silent with regard to the instantly targeted substances. Accordingly, there is simply no teaching, suggestion or underlying rationale to combine the teachings of Ward with others, in the manner of the Applicant, to arrive at the claimed invention.

Regarding Koga, Koga is directed to the indole-3-acetic acid biosynthesis of *Enterobacter cloacae*. Koga, thus, describes studies of a specific biochemical pathway in a specific type of bacterium. Koga does not describe or mention herbicidal activity and merely relates to research regarding the involvement of L-tryptophan aminotransferase in the biosynthesis in *E. cloacae*. Accordingly, as *E. cloacae* is not a weed, Koga does not describe

herbicides, herbicidal activity or compounds having herbicidal activity.

Additionally, as an ordinarily skilled artisan would readily recognize that bacterium and plants differ, it necessarily follows that such individual would also recognize that they also have different metabolic pathways. Accordingly, an ordinarily skilled artisan would not expect that successful targeting of an enzyme in a bacterium would have herbicidal effect upon a plant. Along this line, an ordinarily skilled artisan would not reasonably expect that influencing such enzymes in a weed-plant would actually have any effect at all. In this regard, it is known that many metabolic processes are redundant. That is, if one pathway does not properly function an organism can use another alternate pathway such that there is no negative effect upon the organism as a whole. As plants are much more complex than bacteria the use of such alternate pathways is more pronounced. Accordingly, a skilled artisan would not expect and have no way of knowing, whether influencing enzymes found in bacterium could be used to successfully provide herbicidal activity in plants. Moreover, a skilled artisan would not appreciate whether such influence would kill any and all plants, including those the artisan desired to protect.

Furthermore, Koga specifically describes the use of alternate pathways in studies performed on a strain G438 of *E. cloacae*, which strain is an IAA negative mutant. Strain G438 however, is a living, thriving strain, which illustrates that IAA is not absolutely necessary for an organism to survive - it just produces less IAA (*cf.* table 2). Therefore, Koga's description of such strain teaches away from using the instantly targeted enzymes as a target for herbicides. Again, bearing in mind the redundancy of biological pathways, Koga does not describe or suggest that targeting such enzymes can be used to proffer herbicidal activity - even more so, as *E. cloacae* cannot be regarded as a weed, but is merely a bacterium upon which a skilled artisan would not seek to apply herbicides.

Finally, the documents discussed in Applicant's previous response further discourage a skilled artisan from combing the references as suggested and/or suggest that the motivation to combine the references to arrive at the claimed invention does not emanate from that knowledge generally available to the skilled artisan. That is, the documents addressed in Applicant's previous response lead the skilled artisan to conclude that the IAA pathway is not suitable when trying to find a herbicide because it is obviously very different in different organisms (seacot,

Application No.: 10/508,837  
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Docket No.: 53368

peas, cucumbers . . . ) and, additionally, often redundant. Accordingly, absent the Applicant's disclosure, there is simply no reasonable expectation that the combination of the references would be successful.

Accordingly, in view of the cited references and that knowledge generally available to the ordinarily skilled artisan, it is apparent that such individual would not have been motivated to combine the teachings of the respective references in the manner of Applicant to arrive at the claimed invention combine. Additionally, given the fact that metabolic pathways are known to be redundant, absent the Applicant's disclosure, there is simply no reasonable expectation that the combination propounded by the Examiner would successfully provide herbicidal activity.

Accordingly, absent the Applicant's very own disclosure, upon considering the references as a whole, including those portions that teach way from the claimed invention, it is seen that there is simply no suggestion or motivation in the cited references, or that knowledge generally available to the skilled artisan at the time the invention was made, to combine/modify the reference teachings in the manner of the Applicant to arrive at the claimed invention.

The rejection should be withdrawn.

Application No.: 10/508,837  
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**Conclusion**

Applicant respectfully submits that the present application is in condition for allowance, which action is courteously requested. Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 14-1437. Please credit any excess fees to such deposit account.

Respectfully submitted,  
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